

ABSTRACT OF THE DISCLOSURE

A wideband optical fiber amplifier is disclosed for amplifying and outputting wideband optical signals, including C-band optical signals and L-band optical signals that
5 are input from an optical communication network. The wideband optical fiber amplifier includes: a first amplification section for amplifying the wideband optical signals; a second amplification section for amplifying the L-band optical signals which are separated from wideband optical signals amplified by the first amplification section; an optical signal coupler for combining the optical signals amplified by each of the first and second
10 amplification sections to output the combined optical signals to the optical communication network; and an optical circulator. The optical circulator has a first port for causing the wideband optical signals from the optical communication network to be inputted, a second port for causing the inputted wideband optical signals to be output and for causing spontaneous emissions generated from the first amplification section to be input, a third
15 port for causing the spontaneous emissions to be provided as pumping lights to the second amplification section and for causing the L-band optical signals amplified by the second amplification section to be input and a fourth port for causing the L-band optical signals input into the third port to be output to the optical signal coupler. The wideband optical fiber amplifier enables the number of components to be decreased using the four-port
20 optical circulator, so that both a noise figure and an insertion loss can be decreased, and manufacturing expenses can be saved.